UNIVERSITY OF QUEENSLAND

Computer Centre

WEEKLY NEWSLETTER

date   : week ended 16 November 1972
authorization : Director of the Computer Centre

1   OPERATIONS

1.1   PDP-10 System

Tuesday	14 November	PDP-8 scanner out of service, 0800-0910, reloaded scanner.
Wednesday	15 November	accounting procedures rerun after failure previous night, 0800-0920 system crash, 1033-1037, reloaded monitor.
Thursday	16 November	system hung due to bad tape, 1005-1010, system recovered satisfactorily.
Friday	17 November	not available 0800-0905 due to problems when attempting to load monitor system crash 0920-1000, monitor reloaded system crash 1015-1320, disk errors not available 1320-1500, disks restored to status of previous night.

2   NEW DIRECTOR FOR THE COMPUTER CENTRE

On Monday 6 November, Mr Alan Coulter commenced duty as full time director of the Centre.

Mr Coulter graduated as Bachelor of Economics from the University of Queensland in 1956. He has worked in computing since 1959 - 8 years with the Australian Post Office, 2 years with the Brisbane City Council, and 2 years in the Securities Industry. He joined the staff of the University in February this year as Planning Officer. He is a Fellow of the Australian Computer Society and Australian representative on the International Federation of Information Processing Technical Committee TC6 - Data Communications.

3   BASIC VERSION 17A

The information on Basic version 17A is now available (TM-23) from the Centre. Owing to the size of the memorandum, only a limited number of copies are presently available. Arrangements will be made to produce more if the demand is there.

4   M40

It has been reported by a user that M40 has problems with the IMPLICIT statement. In the particular problem,

     IMPLICIT INTEGER (A-x),
     REAL BY

caused wrong code to be generated for some references to BY if x entered the normal range allotted for integer variables, for example IMPLICIT INTEGER (A-I)

We have received a newer version of M40 which could correct this, but in the meantime use care with the IMPLICIT statement.

6   FORTRAN IV ERROR

An example has been noted of the compiler creating wrong code for a mixed mode expression of the form

     V=FLOATCONST*INTSUB*EXPR

where FLOATCONST is a real constant or variable, and INTSUB is an integer sub expression that is exponentiated in the expression EXPR.

This version of the compiler is known to create incorrect code for mixed mode expressions, particularly where a common sub-expression of lower order than that prevailing in the expression occurs. It should also be noted that mixed arithmetic and logical expressions do not generally compile to correct code.

7   WORN CONTROL CARDS

Users are asked to check their batch decks periodically to ensure that control cards do not become worn and tatty. Worn cards can cause card reader problems that can delay the entire system. There are plenty of free control cards available in the foyer.

8   PROGRAM LIBRARY CATALOGUE

The program library has been developing over the past few months. A catalogue is already available for those programs now in the library and some of the information has already been filmed on

microfiche. Two microfiche readers will be available in the clients' room shortly. The program catalogue will be placed in the clients' room. In the front of the catalogue are descriptions about the organization of the library and information on how to obtain hard copy or submit programs, etc Users may obtain their own copy of the catalogue by

LIST HELP.CATLOG/LST

There is only one version of the catalogue at a time. The first line of the file contains the version number. Users wishing to see if a new catalogue has been produced can always type out the first line and examine the version. However, new versions will always be announced in the Newsletter and Bulletin.

9   SUGGESTIONS

The Suggest command presently works in input mode only. In addition, input is accessed character by character (rather than by line as in, for example Editor) making corrections to typing errors impossible since rubout cannot work on a character once it has been processed. This will be corrected in due course.

9.1   Special Charge Rates For School Accounts

Two suggestions have been received enquiring whether it would be possible to charge a reduced rate for school accounts used for educational purposes. Unfortunately, this is not available at present, except for Minitran work. Minitran work submitted by schools can be run at internal university rates.

9.2   NOTICE/TXT

A request was received that NOTICE/TXT (the text file printed by login at the start of a job) reflect the estimated time of startup so that users unsuccessfully attempting to login at the start of day would know when they should attempt to login again. This has been done.

9.3   Task Option for Account

It has been requested that the Account command be extended to include a Task option, similar to the Limit command.

The charges on the PDP-10 are accumulated incrementally and stored in tables in the monitor. When the Account command is typed Account examines these tables, converts internal units to dollars and cents and formats the output. The Task and Phase

limits are simply additional limits against which the total accumulated charge is checked. It is therefore not possible to obtain a break down for a particular task except by doing an Account before and after the task concerned.

9.4   ABS File

The ABS file resulting from saving an overlay file should be zero compressed also.

This is a worthwhile suggestion and will be considered in the next review of the overlay system. The possibility of combining the ABS file with the save file is also under consideration.

10   COMMAND DECODER

A new command decoder will be released on Wednesday 22 November. This decoder does not alter any of the previous commands but allows greater felxibility in the command format and repertoire. Listed below are the main changes. It has been suggested that the Centre produce a foldup card containing all the system commands (as in appendix D of the System User's Guide). This is being done at the moment. When it is available it will reflect the updated commands as available with this decoder.

10.1   Changes to Command Format

(a)   continuation lines

A command may be continued onto additional lines by using a hyphen as the last meaningful character before the line terminator. (Line terminators include line feed, vertical tab, form feed, altmode and ;comment, - carriage return characters are always ignored). There is no limit to the number of continuation lines but users are warned to be careful using the continuation feature; also, through batch, users should not use the - in columns 72-80.

The hyphen is translated as a space; users thus cannot continue lines in the middle of a verb or filename.

(b)   quoted strings

Decode recognizes several characters as command delimiters, (namely, space , = [ ] ( )). These characters can be included in command strings provided the string is delimited by the quote character ".
   e.g.   .JOB NAME="O HARA"

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The quoted string is terminated either by the quote character or a line feed character.

(c) <u>start addresses</u>

Verbs may include start addresses, e.g. to run your saved program at the DDT start address:
    MYPROG/SAV @DDT

(d) <u>concatenated arguments</u>

Arguments that are to be concatenated (linked together) are enclosed in square brackets. For example
    COPY TO=ABC FROM=[A,B,C]
COPIES THE THREE FILES A, B, C ONE AFTER THE OTHER TO THE ONE FILE ABC.
    MACRO IN=[1,2,3]
COMPILES THE SEVERAL FILES 1, 2, 3 AS ONE, TO FORM A SINGLE BINARY FILE NAMED 1/REL.

It is not possible to concatenate source files as input to Fortran, the Fortran operating system objects to it.

(e) <u>options</u>

Options may apply to the verb or its arguments. Options may also be applied to combinations or arguments by enclosing the arguments in square brackets and placing the option list directly after the square brackets. The option then becomes 'sticky' and applies itself to each argument in the square brackets. Local options (argument) always override global ones (verb), the most global being the one attached to the verb.
    PERMIT(F,R) A,[B(N),C] (,N) is equivalent to
    PERMIT A(F,R), B(N,N) C(F,N)

There are certain standard options that will become available for all commands. At present only HELP is standard for all. If HELP is specified, the decoder will attempt to find the associated HLP file and print it out. Few commands are described on the help directory at present. The Centre would appreciate suggestions as to which commands should be written up and to what depth of detail, bearing in mind that this information will often be typed out on the teletype, a slow device.

(f) <u>* and ALL</u>

* may be used as well as, or in place of the wild name ALL
    e.g.   LIST ALL/MAC ABC/*

10.2   Direct Changes to Commands

(a)   ALGOL

Algol has a new QUOTE (abbr. Q) option. This is used to indicate that the source program has its standard identifiers delimited bu quotes instead of having them as reserve words as is standard.

(b)   COBOL

Cobol has three new options CREF (C), TWOSEGMENT (2SEG) and LIBRARY (LIB). Cref produces a cross reference listing. Twosegment produces reentrant code for the compiled program. Library indicates that the source file is to be used as a library file of standard routines.

(c)   COPY

Copy has three new options IMAGE (I), IMBIN (IB), and NOERROR (NOE). Image copies the file in image mode and Imbin in image binary mode. Image mode is device dependent - the buffer is filled with data exactly as supplied by the device. Image binary mode is similar to binary mode except that no automatic feeding or checksumming is done by the monitor (in binary mode, checksumming is done for cards and paper tape).

Noerror forces the copying of the file regardless of errors.

Copy will copy files with the same name if the filename is not specified:
     COPY TO=362.   FROM=[ALL/MAC,AB/RNO]
in the above example, since the TO name is a directory name, and not a filename, the files are not concatenated; they are copied over singly to directory 362 with their current names.

(d)   Type

Type now has an F4 option, similar to List, for typing data files produced by Fortran programs. It will also work through batch now.

(f)   compile commands

For the compile commands, COBOL, MACRO etc, the default LST filename is now source-file/LST. Terminal users will thus not receive the listing on their terminal unless they specifically request this.